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<120> GENE DISCOVERY THROUGH COMPARISONS OF
NETWORKS OF STRUCTURAL AND FUNCTIONAL RELATIONSHIPS AMONG
GENES AND PROTEINS

<130> A31869-A 070050.1046

<140> U.S. 09/549,827

<141> 2000-04-14

<160> 22

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Prophetic example of coded message

<400> 1

agcaactaaa cacccatcca agcaaacaca cacacaaac
39

<210> 2

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Prophetic example of coded message

<400> 2

aagcaactaa acacccatcc aagcaaacac acacacaaac
40

<210> 3

<211> 292

<212> DNA
<213> Artificial Sequence

<220>
<223> Prophetic example of coded message

<400> 3
aagtacagat ccacggaagg aacgatccaa acaaagacgc aacgacagaa ataacgatcc
60
acataactat ccaaatacat acgcacggaa gtacacacgt aattaaacac ggaagtacat
120
acagatccat ccacggatcc aaataacgaa ttaattacgc atccaaacaa atacggaagt
180
actcaaacac ggaacgaacc atccacggaa ggacctacat acgtaagcaa ggatccacgg
240
aaggaacgaa gtacctatcc aaacacagac ggaagtaagc aacgacagat cc
292

<210> 4
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> Prophetic example of coded message

<400> 4
atctgtcacg
10

<210> 5
<211> 405
<212> DNA
<213> Human

<400> 5
catggcttcc tggacaccaa ccctgccatc cgggagcaga cgggtcaagtc catgctgctc
60
ctggcccaa agctgaacga ggccaacctc aatgtggagc tgatgaagca ctttgcacgg
120
ctacaggcca aggatgaaca gggccccatc cgctgcaaca ccacagtctg cctgggcaaa
180
atcggctcct acctcagtgc tagcaccaga cacagggtcc ttacctctgc cttcagccga
240
gccactaggg acccgtttgc accgtcccgg gttgcgggtg tcctgggctt tgctgccacc
300
cacaacctct actcaatgaa cgactgtgcc cagaagatcc tgctgtgct ctgcgggtctc
360

actgtagatc ctgagaaatc cgtgcgagac caggccttca aggca
405

<210> 6
<211> 453
<212> DNA
<213> Human

<220>
<221> variation
<222> (146)...(146)
<223> A, C, G, or T

<400> 6
ccttcgagtt cggcaatgct ggggccggtg tcctcacgcc cctcttcaag gtgggcaagt
60
tcctgagcgc tgaggagtat cagcagaaga tcatccctgt ggtgggtcaag atgtttctcat
120
ccactgaccg ggccatgcgc atccgnctcc tgcagcagat ggagcagttc atccagtacc
180
ttgacgagcc aacagtcaac acccagatct tccccacgt cgtacatggc ttcttgga
240
ccaaccctgc catccgggag cagacgggtca agtccatgct gtccttg gcc ccaaagctga
300
acgaggccaa cctcaatgtg gagctgatga agcactttgc acggctacag gccaaaggatg
360
aacagggccc catccgctgc aacaccacag tctgcctggg caaaatcggc tcctacctca
420
gtgctagcac cagacacagg gtccttacct ctg
453

<210> 7
<211> 1727
<212> DNA
<213> Human

<400> 7
cagccgaagc amgcaaaaat tcttccagga gctgagcaag agcctggacg cattccctga
60
ggayttctgt cggcacaagg tgctgcccc a gctgctgacc gccttcgagt tcggcaatgc
120
tggggccggt gtcctcacgc cctcttcaa ggtgggcaag ttctgagcg ctgaggagta
180
tcagcagaag atcatccctg tgggtggtaa gatgtttctca tccactgacc gggccatgcg
240
catccgcctc ctgcagcaga tggagcagtt catccagtac cttgacgagc caacagtcaa
300
caccagatc tccccccacg tcgtacatgg cttcctggac accaaccctg ccatccggga

360
gcagacggtc aagtcctatgc tgctcctggc cccaaagctg aacgaggcca acctcaatgt
420
ggagctgatg aagcactttg cacggctaca ggccaaggat gaacagggcc ccatccgctg
480
caacaccaca gtctgcctgg gcaaaatcgg ctctacctc agtgctagca ccagacacag
540
ggtccttacc tctgccttca gccgagccac tagggaccg tttgcaccgt cccgggttgc
600
gggtgtcctg ggctttgctg ccaccacaa cctctactca atgaacgact gtgcccagaa
660
gatcctgcct gtgctctgcg gtctcactgt agatcctgag aaatccgtgc gagaccaggc
720
cttcaaggcm wttcggagct tcctgtccaa attggagtct gtgtcggagg acccgaccca
780
gctggaggaa gtggagaagg atgtccatgc agcctccagc cctggcatgg gaggagccgc
840
agctagctgg gcaggctggg cgtgaccggg gtctcctcac tcacctcaa gctgatccgt
900
tcgcacccaa ccactgcccc aacagaaacc aacattcccc aaagaccac gcctgaagga
960
gttcctgccc cagccccac ccctgttctt gccacccta caacctcagg ccactgggag
1020
acgcaggagg aggacaagga cacagcagag gacagcagca ctgctgacag atgggacgac
1080
gaagactggg gcagcctgga gcaggaggcc gagtctgtgc tggcccagca ggacgactgg
1140
agcaccgggg gccaaagtga ccgtgctagt caggtcagca actccgacca caaatcctcc
1200
aaatccccag agtccgactg gagcagctgg gaarctgagg gtcctggga acagggctgg
1260
caggagccaa gctcccagga gccacctyct gacggtagac ggctggccag cgagtataac
1320
tgggggtggc cagagtccag cgacaagggc gacccttcg ctacctgtc tgcacgtccc
1380
agcaccagc cgaggccaga ctcttggggg gaggacaact gggagggcct cgagactgac
1440
agtcgacagg tcaaggctga gctggcccgg aagaagcgcg aggagcggcg gcgggagatg
1500
gaggccaaac gcgccgagag gaaggtgcca agggcccat gaagctggga gcccggaagc
1560
tggaactgaac cgtggcggtg gcccttccc gctgcggaga gcccgcacca cagatgtatt
1620
tattgtacaa accatgtgag cccggccgcc cagccaggcc atctcacgtg tacataatca
1680
gagccacaat aaattctatt tcacaaaaaa aaaaaaaaaa aaaaaaa
1727

<210> 8
 <211> 287
 <212> PRT
 <213> Human

<220>
 <221> VARIANT
 <222> (4)...(4)
 <223> Any amino acid

<221> VARIANT
 <222> (244)...(244)
 <223> Any amino acid

<400> 8
 Ser Arg Ser Xaa Gln Lys Phe Phe Gln Glu Leu Ser Lys Ser Leu Asp
 1 5 10 15
 Ala Phe Pro Glu Asp Phe Cys Arg His Lys Val Leu Pro Gln Leu Leu
 20 25 30
 Thr Ala Phe Glu Phe Gly Asn Ala Gly Ala Val Val Leu Thr Pro Leu
 35 40 45
 Phe Lys Val Gly Lys Phe Leu Ser Ala Glu Glu Tyr Gln Gln Lys Ile
 50 55 60
 Ile Pro Val Val Val Lys Met Phe Ser Ser Thr Asp Arg Ala Met Arg
 65 70 75 80
 Ile Arg Leu Leu Gln Gln Met Glu Gln Phe Ile Gln Tyr Leu Asp Glu
 85 90 95
 Pro Thr Val Asn Thr Gln Ile Phe Pro His Val Val His Gly Phe Leu
 100 105 110
 Asp Thr Asn Pro Ala Ile Arg Glu Gln Thr Val Lys Ser Met Leu Leu
 115 120 125
 Leu Ala Pro Lys Leu Asn Glu Ala Asn Leu Asn Val Glu Leu Met Lys
 130 135 140
 His Phe Ala Arg Leu Gln Ala Lys Asp Glu Gln Gly Pro Ile Arg Cys
 145 150 155 160
 Asn Thr Thr Val Cys Leu Gly Lys Ile Gly Ser Tyr Leu Ser Ala Ser
 165 170 175
 Thr Arg His Arg Val Leu Thr Ser Ala Phe Ser Arg Ala Thr Arg Asp
 180 185 190
 Pro Phe Ala Pro Ser Arg Val Ala Gly Val Leu Gly Phe Ala Ala Thr
 195 200 205
 His Asn Leu Tyr Ser Met Asn Asp Cys Ala Gln Lys Ile Leu Pro Val
 210 215 220
 Leu Cys Gly Leu Thr Val Asp Pro Glu Lys Ser Val Arg Asp Gln Ala
 225 230 235 240
 Phe Lys Ala Xaa Arg Ser Phe Leu Ser Lys Leu Glu Ser Val Ser Glu
 245 250 255
 Asp Pro Thr Gln Leu Glu Glu Val Glu Lys Asp Val His Ala Ala Ser

			260						265				270	
Ser	Pro	Gly	Met	Gly	Gly	Ala	Ala	Ala	Ser	Trp	Ala	Gly	Trp	Ala
		275					280					285		

<210> 9
 <211> 223
 <212> PRT
 <213> Human

<400> 9

Val	Met	Glu	Leu	Leu	Glu	Glu	Asp	Leu	Thr	Cys	Pro	Ile	Cys	Cys	Ser
1			5					10					15		
Leu	Phe	Asp	Asp	Pro	Arg	Val	Leu	Pro	Cys	Ser	His	Asn	Phe	Cys	Lys
		20						25					30		
Lys	Cys	Leu	Glu	Gly	Ile	Leu	Glu	Gly	Ser	Val	Arg	Asn	Ser	Met	Trp
		35					40					45			
Arg	Pro	Ala	Pro	Phe	Lys	Cys	Pro	Thr	Cys	Arg	Lys	Glu	Thr	Ser	Ala
	50					55					60				
Thr	Gly	Ile	Asn	Ser	Leu	Gln	Val	Asn	Tyr	Ser	Leu	Lys	Gly	Ile	Val
65					70					75					80
Glu	Lys	Tyr	Asn	Lys	Ile	Lys	Ile	Ser	Pro	Lys	Met	Pro	Val	Cys	Lys
				85					90					95	
Gly	His	Met	Gly	Gln	Pro	Leu	Asn	Ile	Phe	Cys	Leu	Thr	Asp	Met	Gln
			100					105					110		
Leu	Ile	Cys	Gly	Ile	Cys	Ala	Thr	Arg	Gly	Glu	His	Thr	Lys	His	Val
		115					120					125			
Phe	Cys	Ser	Ile	Glu	Asp	Ala	Tyr	Ala	Gln	Glu	Arg	Asp	Ala	Phe	Glu
	130					135					140				
Ser	Leu	Phe	Gln	Ser	Phe	Glu	Thr	Trp	Arg	Arg	Gly	Asp	Ala	Leu	Ser
145					150					155					160
Arg	Leu	Asp	Thr	Met	Glu	Thr	Ser	Lys	Arg	Lys	Ser	Leu	Gln	Leu	Met
				165					170					175	
Thr	Lys	Asp	Ser	Asp	Lys	Val	Lys	Glu	Phe	Phe	Glu	Lys	Leu	Gln	His
			180					185					190		
Thr	Leu	Asp	Gln	Lys	Lys	Asn	Glu	Ile	Leu	Ser	Asp	Phe	Glu	Thr	Met
		195					200					205			
Lys	Leu	Ala	Val	Met	Gln	Ala	Tyr	Asp	Pro	Glu	Ile	Asn	Lys	Leu	
	210					215					220				

<210> 10
 <211> 218
 <212> PRT
 <213> Mouse

<400> 10

Val	Leu	Glu	Met	Ile	Lys	Glu	Glu	Val	Thr	Cys	Pro	Ile	Cys	Leu	Glu
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

1				5					10					15		
Leu	Leu	Lys	Glu	Pro	Val	Ser	Ala	Asp	Cys	Asn	His	Ser	Phe	Cys	Arg	
			20					25					30			
Ala	Cys	Ile	Thr	Leu	Asn	Tyr	Glu	Ser	Asn	Arg	Asn	Thr	Asp	Gly	Lys	
		35					40					45				
Gly	Asn	Cys	Pro	Val	Cys	Arg	Val	Pro	Tyr	Pro	Phe	Gly	Asn	Leu	Arg	
	50					55					60					
Pro	Asn	Leu	His	Val	Ala	Asn	Ile	Val	Glu	Arg	Leu	Lys	Gly	Phe	Lys	
65					70					75					80	
Ser	Ile	Pro	Glu	Glu	Gln	Lys	Val	Asn	Ile	Cys	Ala	Gln	His	Gly		
			85					90				95				
Glu	Lys	Leu	Arg	Leu	Phe	Cys	Arg	Lys	Asp	Met	Met	Val	Ile	Cys	Trp	
			100					105				110				
Leu	Cys	Glu	Arg	Ser	Gln	Glu	His	Arg	Gly	His	Gln	Thr	Ala	Leu	Ile	
		115					120					125				
Glu	Glu	Val	Asp	Gln	Glu	Tyr	Lys	Glu	Lys	Leu	Gln	Gly	Ala	Leu	Trp	
	130					135					140					
Lys	Leu	Met	Lys	Lys	Ala	Lys	Ile	Cys	Asp	Glu	Trp	Gln	Asp	Asp	Leu	
145					150				155						160	
Gln	Leu	Gln	Arg	Val	Asp	Trp	Glu	Asn	Gln	Ile	Gln	Ile	Asn	Val	Glu	
			165					170						175		
Asn	Val	Gln	Arg	Gln	Phe	Lys	Gly	Leu	Arg	Asp	Leu	Leu	Asp	Ser	Lys	
			180					185					190			
Glu	Asn	Glu	Glu	Leu	Gln	Lys	Leu	Lys	Lys	Glu	Lys	Lys	Glu	Val	Met	
		195					200					205				
Glu	Lys	Leu	Glu	Glu	Ser	Glu	Asn	Glu	Leu							
	210					215										

<210> 11
 <211> 124
 <212> PRT
 <213> Mouse

<400> 11
 Met Glu Pro Val Ala Ser Asn Ile Gln Val Leu Leu Gln Ala Ala Glu
 1 5 10 15
 Phe Leu Glu Arg Arg Glu Arg Glu Ala Glu His Gly Tyr Ala Ser Leu
 20 25 30
 Cys Pro His Ser Pro Gly Thr Val Cys Arg Arg Arg Lys Pro Pro
 35 40 45
 Leu Gln Ala Pro Gly Ala Leu Asn Ser Gly Arg Ser Val His Asn Glu
 50 55 60
 Leu Glu Lys Arg Arg Arg Ala Gln Leu Lys Arg Cys Leu Glu Gln Leu
 65 70 75 80
 Arg Gln Gln Met Pro Leu Gly Val Asp Cys Thr Arg Tyr Thr Thr Leu
 85 90 95
 Ser Leu Leu Arg Ala Arg Val His Ile Gln Lys Leu Glu Glu Gln Glu

100 105 110
 Gln Gln Ala Arg Arg Leu Lys Glu Lys Leu Arg Ser
 115 120

<210> 12
 <211> 125
 <212> PRT
 <213> Human

<400> 12
 Met Glu Pro Leu Ala Ser Asn Ile Gln Val Leu Leu Gln Ala Ala Glu
 1 5 10 15
 Phe Leu Glu Arg Arg Glu Arg Glu Ala Glu His Gly Tyr Ala Ser Leu
 20 25 30
 Cys Pro His Arg Ser Pro Gly Pro Ile His Arg Arg Lys Lys Arg Pro
 35 40 45
 Pro Gln Ala Pro Gly Ala Gln Asp Ser Gly Arg Ser Val His Asn Glu
 50 55 60
 Leu Glu Lys Arg Arg Arg Ala Gln Leu Lys Arg Cys Leu Glu Arg Leu
 65 70 75 80
 Lys Gln Gln Met Pro Leu Gly Gly Asp Cys Ala Arg Tyr Thr Thr Leu
 85 90 95
 Ser Leu Leu Arg Arg Ala Arg Met His Ile Gln Lys Leu Glu Asp Gln
 100 105 110
 Glu Gln Arg Ala Arg Gln Leu Lys Glu Arg Leu Arg Thr
 115 120 125

<210> 13
 <211> 63
 <212> PRT
 <213> Mouse

<400> 13
 Lys Gln Gln Ser Leu Gln Gln Gln Leu Glu Gln Leu Gln Gly Leu Pro
 1 5 10 15
 Gly Ala Arg Glu Arg Glu Arg Leu Arg Ala Asp Ser Leu Asp Ser Ser
 20 25 30
 Gly Leu Ser Ser Glu Arg Ser Asp Ser Asp Gln Glu Asp Leu Glu Val
 35 40 45
 Asp Val Glu Asn Leu Val Phe Gly Thr Glu Thr Glu Leu Leu Gln
 50 55 60

<210> 14
 <211> 63
 <212> PRT

<213> Human

<220>

<221> VARIANT

<222> (8)...(8)

<223> Any amino acid

<400> 14

Lys	Gln	Gln	Ser	Leu	Gln	Arg	Xaa	Trp	Met	Gln	Leu	Arg	Gly	Leu	Ala
1				5					10					15	
Gly	Ala	Ala	Glu	Arg	Glu	Arg	Leu	Arg	Ala	Asp	Ser	Leu	Asp	Ser	Ser
			20					25					30		
Gly	Leu	Ser	Ser	Glu	Arg	Ser	Asp	Ser	Asp	Gln	Glu	Glu	Leu	Glu	Val
		35					40					45			
Asp	Val	Glu	Ser	Leu	Val	Phe	Gly	Gly	Glu	Ala	Glu	Leu	Leu	Arg	
	50					55						60			

<210> 15

<211> 733

<212> DNA

<213> Human

<220>

<221> variation

<222> (481)...(481)

<223> A, C, G, or T

<221> variation

<222> (499)...(499)

<223> A, C, G, or T

<221> variation

<222> (690)...(690)

<223> A, C, G, or T

<221> variation

<222> (732)...(732)

<223> A, C, G, or T

<400> 15

cagccgcttg ctccggccgg caccctaggg cgaggtccgc caggctgtcg ccgacatgga
60
acccttggcc agcaacatcc aggtcctgct gcaggcggcc gagttcctgg agcgccgtga
120
gagagaggcc gagcatgggt atgcgtccct gtgcccgcat cgaggtccag gccccatcca
180
caggaggaag aagcgacccc ccagggtcc tggcgcgag gacagcgggc ggtcagtgca

240
 caatgaactg gagaagcgca ggagggccca gttgaagcgg tgcctggagc ggctgaagca
 300
 gcagatgccc ctgggcggcg actgtgcccg gtacaccacg ctgagcctgc tgcgccgtgc
 360
 caggatgcac atccagaagc tggaggatca ggagcagcgg gcccgacagc tcaaggagag
 420
 gctgcgcaca aagcagcaga gcctgcagcg gcantggatg cagctccggg ggctggcagg
 480
 ngcggccgag cgggagcgnc tgcgggcgga cagtctggac tcctcaggcc tctcctctga
 540
 gcgctcagac tcagaccaag aggagctgga ggtggatgtg gagagcctgg tgtttggggg
 600
 tgaggccgag ctgctgcggg gcttcgtcgc cggccaggag cacagctact cgcacgtcgg
 660
 cggcgcctgg ctatgatgtt cctcacccan ggcgggcctc tgccctctta ctcgttgccc
 720
 aagcccactt tnc
 733

<210> 16
 <211> 227
 <212> PRT
 <213> Mouse

<400> 16
 Met Ala Thr Ala Val Gly Met Asn Ile Gln Leu Leu Leu Glu Ala Ala
 1 5 10 15
 Asp Tyr Leu Glu Arg Arg Glu Arg Glu Ala Glu His Gly Tyr Ala Ser
 20 25 30
 Met Leu Pro Tyr Ser Lys Asp Arg Asp Ala Phe Lys Arg Arg Asn Lys
 35 40 45
 Pro Lys Lys Asn Ser Thr Ser Ser Arg Ser Thr His Asn Glu Met Glu
 50 55 60
 Lys Asn Arg Arg Ala His Leu Arg Leu Cys Leu Glu Lys Leu Lys Gly
 65 70 75 80
 Leu Val Pro Leu Gly Pro Glu Ser Ser Arg His Thr Thr Leu Ser Leu
 85 90 95
 Leu Thr Lys Ala Lys Leu His Ile Lys Lys Leu Glu Asp Cys Asp Arg
 100 105 110
 Lys Ala Val His Gln Ile Asp Gln Leu Gln Arg Glu Gln Arg His Leu
 115 120 125
 Lys Arg Arg Leu Glu Lys Leu Gly Ala Glu Arg Thr Arg Met Asp Ser
 130 135 140
 Val Gly Ser Val Val Ser Ser Glu Arg Ser Asp Ser Asp Arg Glu Glu
 145 150 155 160
 Leu Asp Val Asp Val Asp Val Asp Val Asp Val Asp Val Glu Gly Thr
 165 170 175

Asp	Tyr	Leu	Asn	Gly	Asp	Leu	Gly	Trp	Ser	Ser	Ser	Val	Ser	Asp	Ser
			180					185					190		
Asp	Glu	Arg	Gly	Ser	Met	Gln	Ser	Leu	Gly	Ser	Asp	Glu	Gly	Tyr	Ser
		195					200					205			
Ser	Ala	Thr	Val	Lys	Arg	Ala	Lys	Leu	Gln	Asp	Gly	His	Lys	Ala	Gly
	210					215					220				
Leu	Gly	Leu													
225															

<210> 17
 <211> 221
 <212> PRT
 <213> Human

<400> 17															
Met	Ala	Ala	Ala	Val	Arg	Met	Asn	Ile	Gln	Met	Leu	Leu	Glu	Ala	Ala
1				5					10					15	
Asp	Tyr	Leu	Glu	Arg	Arg	Glu	Arg	Glu	Ala	Glu	His	Gly	Tyr	Ala	Ser
			20				25						30		
Met	Leu	Pro	Tyr	Asn	Asn	Lys	Asp	Arg	Asp	Ala	Leu	Lys	Arg	Arg	Asn
		35					40					45			
Lys	Ser	Lys	Lys	Asn	Asn	Ser	Ser	Arg	Ser	Thr	His	Asn	Glu	Met	
	50					55				60					
Glu	Lys	Asn	Arg	Arg	Ala	His	Leu	Arg	Leu	Cys	Leu	Glu	Lys	Leu	Lys
65					70					75					80
Gly	Leu	Val	Pro	Leu	Gly	Pro	Glu	Ser	Ser	Arg	His	Thr	Thr	Leu	Ser
				85					90					95	
Leu	Leu	Thr	Lys	Ala	Lys	Leu	His	Ile	Lys	Lys	Leu	Glu	Asp	Cys	Asp
			100					105					110		
Arg	Lys	Ala	Val	His	Gln	Ile	Asp	Gln	Leu	Gln	Arg	Glu	Gln	Arg	His
		115					120					125			
Leu	Lys	Arg	Gln	Leu	Glu	Lys	Leu	Gly	Ile	Glu	Arg	Ile	Arg	Met	Asp
	130					135					140				
Ser	Ile	Gly	Ser	Thr	Val	Ser	Ser	Glu	Arg	Ser	Asp	Ser	Asp	Arg	Glu
145					150					155					160
Glu	Ile	Asp	Val	Asp	Val	Glu	Ser	Thr	Asp	Tyr	Leu	Thr	Gly	Asp	Leu
				165					170					175	
Asp	Trp	Ser	Ser	Ser	Ser	Val	Ser	Asp	Ser	Asp	Glu	Arg	Gly	Ser	Met
			180					185					190		
Gln	Ser	Leu	Gly	Ser	Asp	Glu	Gly	Tyr	Ser	Ser	Thr	Ser	Ile	Lys	Arg
		195					200					205			
Ile	Lys	Leu	Gln	Asp	Ser	His	Lys	Ala	Cys	Leu	Gly	Leu			
	210					215					220				

<210> 18
 <211> 221

<212> PRT
<213> Human

<400> 18

Met	Ala	Ala	Ala	Val	Arg	Met	Asn	Ile	Gln	Met	Leu	Leu	Glu	Ala	Ala		
1				5					10					15			
Asp	Tyr	Leu	Glu	Arg	Arg	Glu	Arg	Glu	Ala	Glu	His	Gly	Tyr	Ala	Ser		
			20					25					30				
Met	Leu	Pro	Tyr	Asn	Asn	Lys	Asp	Arg	Asp	Ala	Leu	Lys	Arg	Arg	Asn		
		35					40					45					
Lys	Ser	Lys	Lys	Asn	Asn	Ser	Ser	Ser	Arg	Ser	Thr	His	Asn	Glu	Met		
	50					55					60						
Glu	Lys	Asn	Arg	Arg	Ala	His	Leu	Arg	Leu	Cys	Leu	Glu	Lys	Leu	Lys		
65					70					75					80		
Gly	Leu	Val	Pro	Leu	Gly	Pro	Glu	Ser	Ser	Arg	His	Thr	Thr	Leu	Ser		
				85					90					95			
Leu	Leu	Thr	Lys	Ala	Lys	Leu	His	Ile	Lys	Lys	Leu	Glu	Asp	Cys	Asp		
			100					105					110				
Arg	Lys	Ala	Val	His	Gln	Ile	Asp	Gln	Leu	Gln	Arg	Glu	Gln	Arg	His		
		115					120					125					
Leu	Lys	Arg	Gln	Leu	Glu	Lys	Leu	Gly	Ile	Glu	Arg	Ile	Arg	Met	Asp		
	130					135					140						
Ser	Ile	Gly	Ser	Thr	Val	Ser	Ser	Glu	Arg	Ser	Asp	Ser	Asp	Arg	Glu		
145					150					155					160		
Glu	Ile	Asp	Val	Asp	Val	Glu	Ser	Thr	Asp	Tyr	Leu	Thr	Gly	Asp	Leu		
				165					170					175			
Asp	Trp	Ser	Ser	Ser	Ser	Val	Ser	Asp	Ser	Asp	Glu	Arg	Gly	Ser	Met		
			180					185					190				
Gln	Ser	Leu	Gly	Ser	Asp	Glu	Gly	Tyr	Ser	Ser	Thr	Ser	Ile	Lys	Arg		
		195					200					205					
Ile	Lys	Leu	Gln	Asp	Ser	His	Lys	Ala	Cys	Leu	Gly	Leu					
	210					215					220						

<210> 19
<211> 207
<212> PRT
<213> Mouse

<400> 19

Met	Glu	Leu	Asn	Ser	Leu	Leu	Leu	Leu	Leu	Glu	Ala	Ala	Glu	Tyr	Leu		
1				5					10					15			
Glu	Arg	Arg	Asp	Arg	Glu	Ala	Glu	His	Gly	Tyr	Ala	Ser	Met	Leu	Pro		
			20					25					30				
Phe	Asp	Gly	Asp	Phe	Ala	Arg	Lys	Lys	Thr	Lys	Thr	Ala	Gly	Leu	Val		
		35					40					45					
Arg	Lys	Gly	Pro	Asn	Asn	Arg	Ser	Ser	His	Asn	Glu	Leu	Glu	Lys	His		
	50					55					60						

Arg	Arg	Ala	Lys	Leu	Arg	Leu	Tyr	Leu	Glu	Gln	Leu	Lys	Gln	Leu	Gly
65					70					75					80
Pro	Leu	Gly	Pro	Asp	Ser	Thr	Arg	His	Thr	Thr	Leu	Ser	Leu	Leu	Lys
				85					90					95	
Ala	Lys	Met	His	Ile	Lys	Lys	Leu	Glu	Glu	Gln	Asp	Arg	Arg	Ala	Leu
			100					105					110		
Ser	Ile	Lys	Glu	Gln	Leu	Gln	Arg	Glu	His	Arg	Phe	Leu	Lys	Arg	Arg
		115					120					125			
Leu	Glu	Gln	Leu	Ser	Val	Gln	Ser	Val	Arg	Val	Arg	Thr	Asp	Ser	Thr
	130					135					140				
Gly	Ser	Ala	Val	Ser	Thr	Asp	Asp	Ser	Glu	Gln	Glu	Val	Asp	Ile	Glu
145					150					155					160
Gly	Met	Glu	Phe	Gly	Pro	Gly	Glu	Leu	Asp	Ser	Ala	Gly	Ser	Ser	Ser
				165					170					175	
Asp	Ala	Asp	Asp	His	Tyr	Ser	Leu	Gln	Ser	Ser	Gly	Cys	Ser	Asp	Ser
			180					185					190		
Ser	Tyr	Gly	His	Pro	Cys	Arg	Arg	Pro	Gly	Cys	Pro	Gly	Leu	Ser	
		195					200					205			

<210> 20
 <211> 205
 <212> PRT
 <213> Mouse

<400> 20

Met	Glu	Pro	Val	Ala	Ser	Asn	Ile	Gln	Val	Leu	Leu	Gln	Ala	Ala	Glu
1				5					10					15	
Phe	Leu	Glu	Arg	Arg	Glu	Arg	Glu	Ala	Glu	His	Gly	Tyr	Ala	Ser	Leu
			20					25					30		
Cys	Pro	His	His	Ser	Pro	Gly	Thr	Val	Cys	Arg	Arg	Arg	Lys	Pro	Pro
		35				40						45			
Leu	Gln	Ala	Pro	Gly	Ala	Leu	Asn	Ser	Gly	Arg	Ser	Val	His	Asn	Glu
	50					55					60				
Leu	Glu	Lys	Arg	Arg	Arg	Ala	Gln	Leu	Lys	Arg	Cys	Leu	Glu	Gln	Leu
65					70					75					80
Arg	Gln	Gln	Met	Pro	Leu	Gly	Val	Asp	Cys	Thr	Arg	Tyr	Thr	Thr	Leu
			85						90					95	
Ser	Leu	Leu	Arg	Ala	Arg	Val	His	Ile	Gln	Lys	Leu	Glu	Glu	Gln	Glu
			100					105					110		
Gln	Gln	Ala	Arg	Arg	Leu	Lys	Glu	Lys	Leu	Arg	Ser	Lys	Gln	Gln	Ser
		115					120					125			
Leu	Gln	Gln	Gln	Leu	Glu	Gln	Leu	Gln	Gly	Leu	Pro	Gly	Ala	Arg	Glu
	130					135					140				
Arg	Glu	Arg	Leu	Arg	Ala	Asp	Ser	Leu	Asp	Ser	Ser	Gly	Leu	Ser	Ser
145					150					155					160
Glu	Arg	Ser	Asp	Ser	Asp	Gln	Glu	Asp	Leu	Glu	Val	Asp	Val	Glu	Asn
				165					170					175	

Leu	Val	Phe	Gly	Thr	Glu	Thr	Glu	Leu	Leu	Gln	Ser	Phe	Ser	Ala	Gly
			180					185					190		
Arg	Glu	His	Ser	Tyr	Ser	His	Ser	Thr	Cys	Ala	Trp	Leu			
		195					200					205			

<210> 21
 <211> 206
 <212> PRT
 <213> Human

<220>
 <221> VARIANT
 <222> (133)...(133)
 <223> Any amino acid

<400> 21

Met	Glu	Pro	Leu	Ala	Ser	Asn	Ile	Gln	Val	Leu	Leu	Gln	Ala	Ala	Glu
1				5					10					15	
Phe	Leu	Glu	Arg	Arg	Glu	Arg	Glu	Ala	Glu	His	Gly	Tyr	Ala	Ser	Leu
			20					25					30		
Cys	Pro	His	Arg	Ser	Pro	Gly	Pro	Ile	His	Arg	Arg	Lys	Lys	Arg	Pro
		35				40						45			
Pro	Gln	Ala	Pro	Gly	Ala	Gln	Asp	Ser	Gly	Arg	Ser	Val	His	Asn	Glu
	50					55					60				
Leu	Glu	Lys	Arg	Arg	Arg	Ala	Gln	Leu	Lys	Arg	Cys	Leu	Glu	Arg	Leu
65					70					75					80
Lys	Gln	Gln	Met	Pro	Leu	Gly	Gly	Asp	Cys	Ala	Arg	Tyr	Thr	Thr	Leu
			85						90					95	
Ser	Leu	Leu	Arg	Arg	Ala	Arg	Met	His	Ile	Gln	Lys	Leu	Glu	Asp	Gln
			100					105					110		
Glu	Gln	Arg	Ala	Arg	Gln	Leu	Lys	Glu	Arg	Leu	Arg	Thr	Lys	Gln	Gln
		115					120					125			
Ser	Leu	Gln	Arg	Xaa	Trp	Met	Gln	Leu	Arg	Gly	Leu	Ala	Gly	Ala	Ala
	130					135					140				
Glu	Arg	Glu	Arg	Leu	Arg	Ala	Asp	Ser	Leu	Asp	Ser	Ser	Gly	Leu	Ser
145					150					155					160
Ser	Glu	Arg	Ser	Asp	Ser	Asp	Gln	Glu	Glu	Leu	Glu	Val	Asp	Val	Glu
			165						170					175	
Ser	Leu	Val	Phe	Gly	Gly	Glu	Ala	Glu	Leu	Leu	Arg	Gly	Phe	Val	Ala
			180					185					190		
Gly	Gln	Glu	His	Ser	Tyr	Ser	His	Val	Gly	Gly	Ala	Trp	Leu		
		195					200					205			

<210> 22
 <211> 206
 <212> PRT

<213> Human

<220>

<221> VARIANT

<222> (133)...(133)

<223> Any amino acid

<400> 22

Met	Glu	Pro	Leu	Ala	Ser	Asn	Ile	Gln	Val	Leu	Leu	Gln	Ala	Ala	Glu	
1				5					10					15		
Phe	Leu	Glu	Arg	Arg	Glu	Arg	Glu	Ala	Glu	His	Gly	Tyr	Ala	Ser	Leu	
			20					25					30			
Cys	Pro	His	Arg	Ser	Pro	Gly	Pro	Ile	His	Arg	Arg	Lys	Lys	Arg	Pro	
		35					40					45				
Pro	Gln	Ala	Pro	Gly	Ala	Gln	Asp	Ser	Gly	Arg	Ser	Val	His	Asn	Glu	
	50					55					60					
Leu	Glu	Lys	Arg	Arg	Arg	Ala	Gln	Leu	Lys	Arg	Cys	Leu	Glu	Arg	Leu	
65					70					75					80	
Lys	Gln	Gln	Met	Pro	Leu	Gly	Gly	Asp	Cys	Ala	Arg	Tyr	Thr	Thr	Leu	
				85					90					95		
Ser	Leu	Leu	Arg	Arg	Ala	Arg	Met	His	Ile	Gln	Lys	Leu	Glu	Asp	Gln	
			100					105					110			
Glu	Gln	Arg	Ala	Arg	Gln	Leu	Lys	Glu	Arg	Leu	Arg	Thr	Lys	Gln	Gln	
		115					120					125				
Ser	Leu	Gln	Arg	Xaa	Trp	Met	Gln	Leu	Arg	Gly	Leu	Ala	Gly	Ala	Ala	
	130					135					140					
Glu	Arg	Glu	Arg	Leu	Arg	Ala	Asp	Ser	Leu	Asp	Ser	Ser	Gly	Leu	Ser	
145					150					155					160	
Ser	Glu	Arg	Ser	Asp	Ser	Asp	Gln	Glu	Glu	Leu	Glu	Val	Asp	Val	Glu	
				165					170					175		
Ser	Leu	Val	Phe	Gly	Gly	Glu	Ala	Glu	Leu	Leu	Arg	Gly	Phe	Val	Ala	
			180					185					190			
Gly	Gln	Glu	His	Ser	Tyr	Ser	His	Val	Gly	Gly	Ala	Trp	Leu			
		195					200					205				